Test Report
Stability of Mix

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	6
Date	9-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.81**	9 KN (min)
2	Marshal Flow	mm	**3.23**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.46**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**71.53**	65 – 75 %
5	Density	g/cc	**2.22**	2.22 g/cc

Note:

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Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Test Report
Stability of Mix

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	7
Date	12-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.5**	9 KN (min)
2	Marshal Flow	mm	**3.1**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.35**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**72.1**	65 – 75 %
5	Density	g/cc	**2.23**	2.22 g/cc

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Test Report
Stability of Mix

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	8
Date	12-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.4**	9 KN (min)
2	Marshal Flow	mm	**3.4**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.25**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**72**	65 – 75 %
5	Density	g/cc	**2.23**	2.22 g/cc

Note:

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Bangalore

Test Report
Stability of Mix

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	9
Date	12-Apr-2018

Sl. No.	Description	Unit	Test 1	Requirements as per MORT&H
1	Marshal Stability	KN	**9.85**	9 KN (min)
2	Marshal Flow	mm	**3.6**	2 – 4 mm
3	Percent of Air Voids in mix	%	**4.25**	3 – 6 %
4	Percent of Voids in Mineral Aggregates filled with Bitumen	%	**71.85**	65 – 75 %
5	Density	g/cc	**2.21**	2.22 g/cc

Note:

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Test Report
Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	1
Date	10-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1752
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	672
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1714
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	634
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	38
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	36
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.36

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	675.00	16.88	16.88	83.13	72-100	
3	9.50	432.00	10.80	27.68	72.33	70-88	
4	4.75	231.00	5.78	33.45	66.55	53-71	
5	2.36	481.00	12.03	45.48	54.53	42-58	
6	1.18	343.00	8.58	54.05	45.95	34-48	
7	0.60	436.00	10.90	64.95	35.05	26-38	
8	0.30	430.00	10.75	75.70	24.30	18-28	
9	0.15	381.00	9.53	85.23	14.78	12-20)	
10	0.08	360.00	9.00	94.23	5.77	(4-10)	

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Asst. Executive Engineer
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Yelahanka Zone
Bangalore

Test Report
Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	2
Date	10-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1753
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	673
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1715
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	635
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	38
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	36
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	$W_a / SbX100$	5.35

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade II Specificati on for Bituminous Concrete
2	13.20	675.00	16.88	16.88	83.13	72-100	
3	9.50	432.00	10.80	27.68	72.33	70-88	
4	4.75	231.00	5.78	33.45	66.55	53-71	
5	2.36	481.00	12.03	45.48	54.53	42-58	
6	1.18	343.00	8.58	54.05	45.95	34-48	
7	0.60	436.00	10.90	64.95	35.05	26-38	
8	0.30	430.00	10.75	75.70	24.30	18-28	
9	0.15	381.00	9.53	85.23	14.78	12-20)	
10	0.08	360.00	9.00	94.23	5.77	(4-10)	

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Bangalore

Test Report

Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	3
Date	9-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1810
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	730
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1769
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	689
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	41
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	39
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_b$)	(%)	$W_a / SbX100$	5.34

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade ll Specificati on for Bituminous Concrete
2	13.20	662.00	16.55	16.55	83.45	72-100	
3	9.50	412.00	10.30	26.85	73.15	70-88	
4	4.75	231.00	5.78	32.63	67.38	53-71	
5	2.36	481.00	12.03	44.65	55.35	42-58	
6	1.18	311.00	7.78	52.43	47.58	34-48	
7	0.60	416.00	10.40	62.83	37.18	26-38	
8	0.30	378.00	9.45	72.28	27.73	18-28	
9	0.15	368.00	9.20	81.48	18.53	12-20)	
10	0.08	360.00	9.00	90.48	9.53	(4-10)	

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Bangalore

Test Report
Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	4
Date	9-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1785
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	705
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1745
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	665
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	40
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	38
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	W_a/ SbX100	5.39

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	665.00	16.63	16.63	83.38	72-100	
3	9.50	417.00	10.43	27.05	72.95	70-88	
4	4.75	232.00	5.80	32.85	67.15	53-71	
5	2.36	490.00	12.25	45.10	54.90	42-58	
6	1.18	314.00	7.85	52.95	47.05	34-48	
7	0.60	419.00	10.48	63.43	36.58	26-38	
8	0.30	382.00	9.55	72.98	27.03	18-28	
9	0.15	380.00	9.50	82.48	17.53	12-20)	
10	0.08	370.00	9.25	91.73	8.28	(4-10)	

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Test Report
Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	5
Date	12-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1775
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	695
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1736
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	656
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	39
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	37
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_B$)	(%)	$W_a / SbX100$	5.32

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	671.00	16.78	16.78	83.23	72-100	
3	9.50	419.00	10.48	27.25	72.75	70-88	
4	4.75	235.00	5.88	33.13	66.88	53-71	
5	2.36	487.00	12.18	45.30	54.70	42-58	
6	1.18	322.00	8.05	53.35	46.65	34-48	
7	0.60	425.00	10.63	63.98	36.03	26-38	
8	0.30	379.00	9.48	73.45	26.55	18-28	
9	0.15	382.00	9.55	83.00	17.00	12-20)	
10	0.08	373.00	9.33	92.33	7.68	(4-10)	

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Test Report
Binder Content and Mix Gradation

Project Name	1. Improvement of drain at thirumenahalli village main road in ward no 05 byatarayanapura sub division.2) Improvement of road and drain at thirumenahalli junction to agrahara layout govt hospital in ward no05 byatarayanapura sub division 3)Improvement of roads and drain at chokkanahalli village main road cross road in ward no 05 byatarayanapura sub division 4) Improvement of roads and drain at markendeyanagara main road and cross roads in ward no 05 byatarayanapura sub division 5) Improvement of roads and drain at sriraj layout main road and cross road in ward no 05 byatarayanapura sub division 6) Improvement of roads and drain at kogilu surrounding in ward no 05 byatarayanapura sub division 7)Improvement of roads and drain at agrahara village cross roads in ward no 05 byatarayanapura sub division 8) Improvement of roads and drain at agrahara layout kallappa reddy main road in ward no 05 byatarayanapura sub division
Client	Executive Engineer Project Division Yelahanka Zone
Job No	MCTPL/BBMP/Project Division Yelahanka Zone /PMC/2017-2018/QR/P-9/1
Mix Type	Bituminous Concrete (BC)
Contractor	Sri S K Chandra
Test Method	Specification for Road & Bridge Works, MORT&H, Revision V.
Location	Bay
Material	Bituminous Concrete mix
Sample No	6
Date	12-Apr-2018

Sl. No.	Description	Unit	Computation	Test Result
1	Weight of Empty bowl before Extraction (E)	gm	Eb	1080
2	Weight of bowl + Sample before extraction (w_s)	gm	w_{sb}	1730
3	Weight of Sample taken for the test (S_b)	gm	$S_b = w_{sb} - Eb$	650
4	Weight of bowl + Sample after extraction (w_s)	gm	w_{sa}	1693
5	Weight of Sample after extraction (i.e. washed aggregates) (S_a)	gm	$S_a = w_{sa} - Eb$	613
6	Weight of Filter paper before extraction (F_b)	gm	F_b	2
7	Weight of Filter paper after extraction (F_a)	gm	F_a	4
8	Weight of filler on filter paper (F_d)	gm	$F_d = F_b - F_a$	2
9	Weight of Bitumen without considering Filter paper (W_b)	gm	W_b	37
10	Weight of the Bitumen with considering Filter paper (W_a)	gm	$W_a = w_b - F_d$	35
11	Percentage of the Bitumen (i.e. Binder Content) ($\%_b$)	(%)	$W_a / SbX100$	5.38

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained (%)	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	19.00	0.00	0.00	0.00	100.00	100.00	Gradation satisfies the MORT&H Grade II Specification for Bituminous Concrete
2	13.20	665.00	16.63	16.63	83.38	72-100	
3	9.50	419.00	10.48	27.10	72.90	70-88	
4	4.75	235.00	5.88	32.98	67.03	53-71	
5	2.36	492.00	12.30	45.28	54.73	42-58	
6	1.18	318.00	7.95	53.23	46.78	34-48	
7	0.60	426.00	10.65	63.88	36.13	26-38	
8	0.30	385.00	9.63	73.50	26.50	18-28	
9	0.15	382.00	9.55	83.05	16.95	12-20)	
10	0.08	370.00	9.25	92.30	7.70	(4-10)	

For Mecadez Core Technologies Private Limited

Authorised Signature

Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore